REMARKS

Claims 1-13, 16, 21-22, 24, 27, 28, and 30-42 have been amended. Claims 1-45 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 101 Rejection:

The Examiner rejected claims 1-45 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Specifically, the Examiner submits that method claims and claims that recite a judicial exception (software) must recite a practical application, which may be provided by a physical transformation or a useful, concrete, and tangible result. Applicants assert that the claims, as amended, clearly recite a useful, concrete, and tangible result in the technological arts, e.g., encoding associations between computer resources and resource management policies and binding those encodings to computations (and/or isolates), causing the computations/isolates to be executed according to the resource management policies. Applicants assert that the management of computer resources for execution of computations/isolates is clearly a practical application in the technological arts.

The Examiner also rejected claims 1-12 for appearing to be comprised of software alone without claiming associated computer hardware required for execution. These claims have been amended to recite a <u>computer-readable storage medium storing program instructions</u> <u>computer-executable to</u> perform operations comprising ....

The Examiner also rejected claims 24-29 for claiming a data structure comprising a mere arrangement of data. The Examiner is ignoring the plain language of the claim, which recites "A data structure encoded on one or more machine-readable media..." According to MPEP §2106.01 "...a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data

structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory."

The Examiner also rejected claims 35-41 for claiming nonfunctional descriptive material. These claims have been amended to recite, for example, "A computer-readable storage medium comprising program instructions computer-executable to implement: instantiating an instance of a resource domain according to a resource domain class definition... and executing the one or more isolates in accordance with the resource management policy." As the Examiner is certainly aware ". . .a claimed computer-readable medium encoded with a computer program defines structural and functional interrelationships between the computer program and the medium which permit the computer program's functionality to be realized, and is thus statutory" as stated in the MPEP §2106.01.

The Examiner also rejected claims 42-45 because the "means for representing an association," i.e., the corresponding structure in the disclosure, is not automatically and inherently limited to hardware-inclusive embodiments. The Examiner submits, "Only if at least one of the claimed elements of the system is physical part of a device can the system as claimed constitute part of a device or a combination of devices to be a machine within the meaning of 101." Applicants first note that claim 42 also recites a memory, which is clearly a physical part of a computer system (device). In addition, according to the section of the MPEP on Patentable Subject Matter Eligibility, MPEP 2106.II.C, "Where means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof" that correspond to the recited function. Two *en banc* decisions of the Federal Circuit have made clear that the USPTO is to interpret means plus function language according to 35 U.S.C. § 112, sixth paragraph. *In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (en banc); *In re Alappat*, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (en banc)." The structures and materials disclosed in Applicant's specification clearly include computer hardware such as a processor unit and/or computer-readable

storage media, on which such a representation may be stored. Therefore, the rejection of claims 42-45 is improper.

Finally, the Examiner rejected claims 24-41 as being directed to non-statutory subject matter. Specifically, the Examiner submits that these claims are directed to a signal or indirectly, because the specification includes a description of a computer readable medium that is defined as a "wave." Applicants note that claims 24 and 30-41, as well as claims 1-12, have been amended to recite a computer-readable storage medium, examples of which are described in Applicants specification, and which are clearly tangible components of a computer system.

For at least the reasons above, Applicants respectfully request removal of the rejection of claims 1-45 under 35 U.S.C. § 101.

Section 112, Second Paragraph, Rejection:

The Examiner rejected claims 11 and 20 under 35 U.S.C. § 112, second paragraph, as indefinite. Specifically, the Examiner submits that the term "the group of computations" recited in claim 11 lacks antecedent basis in the claims. Claim 11 has been amended to overcome the rejection.

In addition, the Examiner submits that the term "the bound isolates" in claim 20 lacks antecedent basis in the claims. However, this term clearly finds antecedent basis in claim 13, from which it depends. Claim 13 includes the limitation, "binding one or more isolates to the encoding." It is clear from the plain language of the claims that "the bound isolates" of claim 20 are the isolates that are bound to the encoding as a result of the above-referenced limitation of claim 13.

For at least the reasons above, Applicant respectfully request removal of the rejection of claims 11 and 20 under 35 U.S.C. § 112.

Section 102(b) Rejection:

The Examiner rejected claims 1, 3, 11-18, 21 and 42-45 under 35 U.S.C. § 102(b) as being anticipated by Czajkowski, G., et al. ("Jres: A Resource Accounting Interface for Java") (hereinafter "Czajkowski"). Applicants respectfully traverse this rejection for at least the following reasons.

Regarding independent claim 1, contrary to the Examiner's assertion, Czajkowski fails to disclose *encoding an association of a computer resource and a resource management policy for the computer resource.* The Examiner cites page 2, column 2, paragraph 2, lines 5-8 as teaching this limitation, stating, "...resources have limits placed on them, i.e., resource management policy." This passage, and others, describe that limits may be set on resources available to threads and that the use of resources may be monitored. While this passage may describe various aspects of a resource management policy, it teaches nothing about <u>encoding an association between a computer resource and such a policy</u>, as required by claim 1.

Further regarding claim 1, Czajkowski fails to disclose *binding one or more encapsulated computations to the encoding.* The Examiner again cites page 2, column 2, paragraph 2, lines 5-8 as teaching this limitation, although Applicants note that the Examiner's remarks seem to be directed to page 2, column 1, paragraph 2, lines 5-8. The Examiner submits that this passage discloses, "threads must adhere to the resource management policy, otherwise callbacks are invoked." Again, this passage teaches nothing about the <u>specific limitations</u> recited in claim 1 regarding <u>binding one or more encapsulated computations</u> to <u>the encoding</u> (which, as discussed above, is not taught by Czajkowski). Instead, this passage goes on to describe various generally-applied policies, such as one which ensures that no thread gets more than 100 milliseconds of CPU time out of every second, one which ensures that no thread can send more than 2MB of data.

Applicants remind the Examiner that anticipation requires the presence in a single prior art reference disclosure of <u>each and every limitation</u> of the claimed invention,

arranged as in the claim. M.P.E.P 2131; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The **identical invention must** be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). As discussed above, Czajkowski fails to disclose the encoding of claim 1 or binding encapsulated computations to such an encoding. Therefore, Czajkowski cannot be said to anticipate claim 1.

For at least the reasons above, the rejection of claim 1 is unsupported by the cited art and removal thereof is respectfully requested.

Independent claims 13 and 42 include limitations similar to those of claim 1 and were rejected for the same reasons as claim 1. Therefore, the arguments presented above apply with equal force to these claims, as well.

Section 103(a) Rejections:

The Examiner rejected claims 2, 4-10 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Czajkowski in view of Back et al. ("Processes n KaffeOS: Isolation, Resource Management, and Sharing in Java") (hereinafter "Back"), claims 19, 20, 22 and 30-41 as being unpatentable over Czajkowski, and claims 24-29 as being unpatentable over Karch (U.S. Patent 7,096,219). Applicants respectfully traverse these rejections for at least the following reasons.

Regarding independent claim 24, contrary to the Examiner's assertion, the cited reference fails to teach or suggest a *data structure comprising: a first field to indicate a computer resource; a second field to indicate a resource management policy; and a third field to indicate availability of the computer resource.* **The Examiner admits that Karch does not teach a data structure comprising the elements recited in claim 24.** The Examiner submits that Karch teaches a resource usage analysis tool to perform reporting on resources, availability, and policies (in column 4, lines 5-12). This passage, however, does not describe reporting on policies (as suggested by the Examiner), but reporting and analysis of data management system resources and defining rules that

control access to those resources. It also does not describe reporting on the availability of resources, as suggested by the Examiner, but describes reporting on actual usage of the resources. Therefore, Karch does not teach a resource usage analysis tool that reports on the three elements recited in claim 24.

The Examiner submits, "It would have been obvious to one of ordinary skill in the art at the time of the invention that Karch would also include a data structure to include all the fields. One would be motivated by the desire to allow for simplified reporting as provided by Karch (column 4, lines 17-20)." Applicants assert that nothing in this passage of Karch describes simplified reporting, or a need for such simplified reporting. In addition, the Examiner has not provided any reason or evidence to support his assertion that the use of a data structure in Karch, (whether or not it included the fields recited in Applicants' claim) would allow for simplified reporting. Furthermore, Applicants' claim has nothing to do with reporting of computer resource usage. Therefore, the Examiner's reason to modify Karch is not commensurate with the feature he is attempting to include in Karch to result in the claimed invention. Therefore, the Examiner's reason to combine is improper. Finally, as discussed above, Karch does not teach the use of the specific elements recited in claim 24 in its resource analysis tool. Therefore, even if the elements described as being included in one of the reports generated by Karch were included in a single data structure, this data structure would not teach the data structure recited in Applicants' claim.

Applicants remind the Examiner that to establish a *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03. Since Karch does not teach the data structure of claim 24 and the Examiner has not provided a proper reason to modify Karch to include such a data structure, the Examiner has failed to establish a *prima facie* obviousness of the claimed invention.

For at least the reasons above, the rejection of claim 24 is unsupported by the cited art and removal thereof is respectfully requested.

Regarding independent claim 30, contrary to the Examiner's assertion, Czajkowski fails to teach or suggest *binding of two or more encapsulated computations to resource domain structures...* and *wherein each of the resource domain structures represents an association between a computer resource and a resource management policy.* These limitations are similar to those discussed above regarding claim 1, and so the arguments presented above apply with equal force to this claim, as well.

Further regarding claim 30, the Examiner admits that Czajkowski does not teach preventing binding of encapsulated computations with resource domain structures that indicate the same computer resources and allowing binding of computations with resources domain structures that indicate different computer resources, but submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Czajkowski to do so, stating, "It is well known in the art to perform load balancing of resources. One would be motivated by the desire to load balance the computations." Applicants note that claim 30 has nothing to do with load balancing (i.e., assigning computations to different resources for execution), but with whether or not to bind encapsulated computations to <u>resource domain structures</u> (i.e., data structures that represent <u>an association between a computer resource and a resource management policy</u>). As discussed above in remarks regarding claim 1, Czajkowski does not teach an encoding, or any other data structure, representing such an association.

For at least the reasons above, the rejection of claim 30 is unsupported by the cited art and removal thereof is respectfully requested.

Regarding independent claim 35, contrary to the Examiner's assertion, Czajkowski fails to teach or suggest *instantiating an instance of a resource domain according to a resource domain class definition, wherein the resource domain class definition provides for associating a computer resource with a resource management policy and for binding a set of one or more isolates to the instance.* The Examiner again cites page 2, column 2, paragraph 2, lines 5-8 as teaching this limitation, stating,

"…resources have limits placed on them, i.e., resource management policy." However, as discussed above regarding claim 1, this passage teaches nothing about <u>a resource domain</u>, or any other encoding or data structure, <u>that associates a computer resource with a resource management policy, or about binding an isolate thereto</u>, as required by claim 35.

The Examiner admits that Czajkowski does not explicitly teach a resource domain class definition, but submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Czajkowski to include a class definition, stating, "It is well know in the art that objects are instantiated using class definitions. One would be motivated by the desire to create class definition for a resource domain in order to create it." Applicants assert, however, that as discussed above, Czajkowski does not teach the object (i.e., the resource domain) of Applicants' claim. Therefore, there would be no reason to provide a class definition to instantiate an instance of such an object.

For at least the reasons above, the rejection of claim 35 is unsupported by the cited art and removal thereof is respectfully requested.

In regard to the rejections under both § 102(b) and § 103(a), Applicants also assert that numerous ones of the dependent claims recite further distinctions over the cited art. Applicants traverse the rejection of these claims for at least the reasons given above in regard to the claims from which they depend. However, since the rejections have been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time. Applicants reserve the right to present additional arguments.

CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/6000-33400/RCK.

Respectfully submitted,

 /Robert C. Kowert/
Robert C. Kowert, Reg. #39,255
Attorney for Applicant(s)

Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C.
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8850

Date: June 22, 2008